3. Annabella

Program Name: Annabella.java **Input File: annabella.dat**

Annabella is having issues with her work in the biology lab she's been working on. She needs a program that will determine how many days until a given set of cultures will reach a certain amount of biomass. Each culture will have 3 different growth rates depending on what it is being exposed to (`UV`, `LED`, `No Light`), and a starting mass. The biomass in each individual culture will all grow at the same rate each day, including mass grown in the immediately previous day. Keep in mind you may start with enough mass to satisfy the growth requirement.

Input: Input will begin with an integer, `num` (`0 < num <= 1000`), denoting the number of test cases to follow. Each test case will begin with 2 space separated integers, `n` (`0 < n <= 100`) and `m` (`0 < m <= 1000000`), denoting the number of cultures in the set, and the target amount of total biomass, followed by a space, followed by a string denoting the type of light the cultures are being exposed to. Each of the following `n` lines will each contain 4 floating point values, the amount of mass the culture starts with, and the growth rate under `UV`, `LED`, and `No Light`, respectively.

Output: For each test case, output the integer day in which the total biomass level combined across all the cultures reaches the target value. This will always be possible.

Sample input:

```
2
2 10 UV
1.0 1.2 1.3 1.4
1.0 1.5 1.4 1.3
3 50 LED
2.0 2.0 2.1 1.9
3.0 1.6 1.7 1.9
4.0 1.2 1.3 1.9
```

Sample output:

```
5
4
```